

March 14, 2011

KINETICO INCORPORATED  
THOMAS GOSHE  
10845 KINSMAN RD.  
PO BOX 193  
NEWBURY OH 44065

Re: Description: WATER TREATMENT DEVICE- REVERSE OSMOSIS  
Manufacturer: KINETICO INCORPORATED  
Product Name: K-5 DRINKING WATER STATION (POU)  
Model Number(s): 12799 USING THE WOW STORAGE TANK (POU)  
Product File No: 20110025

The specifications and/or plans for this plumbing product have been reviewed and determined to be in compliance with chapters Comm 82 through 84, Wisconsin Administrative Code, and Chapters 145 and 160, Wisconsin Statutes.

The Department hereby issues an approval based on the Wisconsin Statutes and the Wisconsin Administrative Code. This approval is valid until the end of November 2013.

This approval supersedes the approval issued on November 18<sup>th</sup>, 2008 under product file number 20110025.

This approval is contingent upon compliance with the following stipulation(s):

- This product has undergone sufficient testing to document the product's ability to reduce only those contaminants and/or substances as specified in this approval letter when the product is installed and maintained in strict accordance with the manufacturer's published instructions.
- Where the Department of Natural Resources (DNR) has jurisdiction, a written approval may be required prior to installation of this product in a water supply system to reduce the concentration of a contaminant that exceeds the primary drinking water standards contained in ch. NR 809, Wis. Admin. Code, the enforcement standards contained in ch. NR 140, Wis. Admin. Code, or for a water supply system that is subject to a written advisory opinion by the DNR. For more information contact the DNR Section of Private Water Systems, P.O. Box 7921, Madison, WI 53707, telephone (608) 267-9787.
- If this approved device is modified or additional assertions of function or performance are made, then this approval shall be considered null and void, unless the change is submitted to the department for review and the approval is reaffirmed.
- These devices will only reduce the concentration of volatile organic chemicals at water outlets that are served by the devices. There are dermal (skin) absorption and inhalation exposure risks associated with volatile organic chemicals. Therefore, using point-of-use devices such as these will not protect all routes of potential exposure. Potentially hazardous exposures to volatile organic chemicals will remain possible at unprotected outlets, particularly hot water outlets (e.g. bathing, showering, clothes washing or dish washing).

If, by way of reputable water analyses, a water supply is known to contain unsafe levels of volatile organic chemicals, then all the water entering the residence must be treated at the point-of-entry using an approved water treatment device to address all potential routes of exposure.

- These devices will only reduce the concentration of cysts/oocysts at water outlets that are served by the devices. Therefore, using point-of-use devices such as these will not protect all routes of potential exposure. Potentially hazardous exposures to cysts/oocysts will remain possible at unprotected outlets.

The presence of cysts/oocysts strongly suggests that other pathogens (e.g. bacteria, virus) may also be present.

If, by way of reputable water analyses, a water supply is known to contain cysts/oocysts, then all the water entering the residence must be treated at the point-of-entry, using an approved water treatment device, to address all potential routes of exposure thereby providing a biologically safe water supply.

- In addition to the product water quality monitor specified elsewhere in this letter, this device shall be provided with one of the following means to warn the user when the system is not performing its function:
  1. a nitrate/nitrite monitor on the product water stream; or
  2. a sampling and analysis kit for nitrate/nitrite with explicit instructions of recommended frequency of analysis.
- If the treatment components of this device (e.g. replacement cartridge) are replaced with anything other than those originally approved for use with this device, then this approval shall immediately be considered null and void.

Based on testing data submitted to and reviewed by the department, this approval recognizes that this plumbing product will reduce the concentration of contaminants as specified on pages 1 through 5 of this letter.

**HEALTH EFFECTING INORGANIC CONTAMINANT REDUCTION CAPABILITIES**  
**PRODUCT FILE NUMBER 20110025**  
**TABLE 1 OF 4**

**Product Water Production Rate:** 153.7 liters per day (lpd) [40.6 gallons per day (gpd)]

Tested Contaminant	Tested Influent Concentration (mg/l) <sup>1</sup>
Arsenic (As <sup>+5</sup> )	0.30 ± 10%
Asbestos Fibers (> 10 µm in length)	1.0 x 10 <sup>7</sup> to 1.0 x 10 <sup>8</sup> F/l
Barium (Ba <sup>+2</sup> )	10.0 ± 10%
Cadmium (Cd <sup>+2</sup> )	0.03 ± 10%
Copper (Cu <sup>+2</sup> )	3.0 ± 10%
Hexavalent Chromium (Cr <sup>+6</sup> )	0.15 ± 10%
Lead (Pb <sup>+2</sup> )	0.15 ± 10%
Nitrate (NO <sub>3</sub> <sup>-</sup> )	27.0 ± 10%
Nitrite (NO <sub>2</sub> <sup>-</sup> )	3.0 ± 10%
Radium 226/228 ( <i>barium surrogate</i> )	25 pCi/L
Selenium (Se <sup>+4</sup> and Se <sup>+6</sup> )	0.10 ± 10%
Trivalent chromium (Cr <sup>+3</sup> )	0.15 ± 10%

**Other conditions:** the contaminant reduction capabilities displayed for table 1 of 4 were generated by testing conducted in accordance with NSF/ANSI Standard 58. To qualify for arsenic reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are ≤ 0.010 mg/l. To qualify for asbestos reduction, the device must reduce the influent challenge concentrations by ≥ 99%. To qualify for barium reduction, the device must reduce the influent challenge water concentrations such that all effluent concentrations are ≤ 2.0 mg/l. To qualify for cadmium reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are ≤ 0.005 mg/l. To qualify for copper reduction, the device must reduce the influent challenge water concentrations such that all effluent concentrations are ≤ 1.3 mg/l. To qualify for chromium reduction (i.e. trivalent or hexavalent), the device must reduce the influent challenge concentrations such that all effluent concentrations are ≤ 0.1 mg/l. To qualify

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for lead reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are  $\leq 0.010$  mg/l. To qualify for nitrate/nitrite reduction, the device must reduce the influent challenge water concentrations, such that all effluent concentrations are  $\leq 10.0$  mg/l (as N), also, no more than 1.0 mg/l (as N) shall be in the form of nitrite. To qualify for radium reduction, the device must reduce the influent barium challenge concentrations such that all effluent concentrations are  $\leq 2.0$  mg/l (barium is used as a surrogate based on its relationship with radium on the periodic table and the difficulty in using radium for routine testing). To qualify for selenium reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are  $\leq 0.05$  mg/l.

1 = milligrams per liter (mg/l) are equivalent to parts per million (ppm)

$\leq$  = less than or equal to

F/l = fibers per liter

$\mu$ m = micrometers

$\pm$  = plus or minus

\* = unless otherwise indicated

< = less than

$\geq$  = greater than or equal to

**HEALTH EFFECTING BIOLOGICAL CONTAMINANT REDUCTION CAPABILITIES**  
**PRODUCT FILE NUMBER 20110025**  
**TABLE 2 OF 4**

**Product Water Production Rate:** 153.7 liters per day (lpd) [40.6 gallons per day (gpd)]

Tested Contaminant	Influent Challenge (#/ml)
Cysts/Oocysts <sup>1</sup>	$\geq 5.0 \times 10^4$

**Other Conditions:** the contaminant reduction performance capabilities displayed for Table 2 of 4 were verified by testing conducted in accordance with NSF *International* Standard 58. To qualify for cyst/oocyst reduction, the device must reduce the influent challenge concentrations by  $\geq 99.95\%$  at each sample point.

1 = the specific organisms covered under this testing protocol include cryptosporidium parvum, entamoeba histolytica, giardia lamblia and toxoplasma gondii

$\geq$  = greater than or equal to

#/ml = particles per milliliter

**AESTHETIC INORGANIC CONTAMINANT REDUCTION CAPABILITIES**  
**PRODUCT FILE NUMBER 20110025**  
**TABLE 3 OF 4**

**Product Water Production Rate:** 153.7 liters per day (lpd) [40.6 gallons per day (gpd)]

Tested Contaminant	Average Influent Challenge (mg/l) <sup>1</sup>
Chlorine (free)	$2.0 \pm 10\%$
Total Dissolved Solids (NaCl surrogate)	$750 \pm 40$

**Other Conditions:** the contaminant reduction performance capabilities displayed for Table 3 of 4 were verified by testing conducted in accordance with NSF *International* Standards 42 (free chlorine) and 58 (total dissolved solids). To qualify for free chlorine reduction, the device must reduce the influent challenge concentrations by  $\geq 50\%$ . To qualify for total dissolved solids (TDS) reduction, the device must reduce the influent challenge concentrations by  $\geq 75\%$ .

1 = milligrams per liter (mg/l) are equivalent to parts per million (ppm)

$\pm$  = plus or minus

$\geq$  = greater than or equal to

**HEALTH EFFECTING ORGANIC CONTAMINANT REDUCTION CAPABILITIES  
 PRODUCT FILE NUMBER 20110025**

**TABLE 4 OF 4**

**Product Water Production Rate:** 153.7 liters per day (lpd) [40.6 gallons per day (gpd)]

<b>Tested Contaminant</b>	<b>Influent Challenge (µg/l) <sup>1</sup></b>
Alachlor	50
Atrazine	100
Benzene	81
Carbofuran	190
Carbon tetrachloride	78
Chlorobenzene	77
Chloropicrin	15
2,4-D	110
Dibromochloropropane (DBCP)	52
o-Dichlorobenzene	80
p-Dichlorobenzene	40
1,2-Dichloroethane	88
1,1-Dichloroethylene	83
cis-1,2-Dichloroethylene	170
trans-1,2-Dichloroethylene	86
1,2-Dichloropropane	80
cis-1,3-Dichloropropylene	79
Dinoseb	170
Endrin	53
Ethylbenzene	88
Ethylene dibromide (EDB)	44
<b>Haloacetonitriles (HAN):</b>	-
Bromochloroacetonitrile	22
Dibromoacetonitrile	24
Dichloroacetonitrile	9.6
Trichloroacetonitrile	15
<b>Haloketones (HK):</b>	-
1,1-Dichloro-2-propanone	7.2
1,1,1-Trichloro-2-propanone	8.2
Heptachlor (H-34, HEPTOX)	80
Heptachlor epoxide	10.7
Hexachlorobutadiene	44
Hexachlorocyclopentadiene	60
Lindane	55
Methoxychlor	50
Methyl <i>tert</i> -butyl ether <sup>▲</sup>	15.0 ± 20%
Pentachlorophenol	96
Simazine	120
Styrene	150
1,1,2,2-Tetrachloroethane	81
Tetrachloroethylene	81
Toluene	78
2,4,5-TP (silvex)	270
Tribromoacetic acid	42
1,2,4-Trichlorobenzene	160
1,1,1-Trichloroethane	84
1,1,2-Trichloroethane	150
Trichloroethylene	180

**Other Conditions:** the contaminant reduction performance capabilities displayed for Table 4 of 4 were verified by testing conducted in accordance with NSF *International* Standard 58. To qualify for the reduction of the organic contaminants listed above, the device must reduce the influent challenge concentration of chloroform at 300 µg/l ± 10% at each sample point by a minimum of 95%. To qualify for methyl *tert*-butyl ether, the device must reduce the influent challenge concentrations such that all effluent concentrations are ≤ 5.0 µg/l

This device was tested under controlled laboratory, or field, conditions. The actual performance of this device for a specific end use installation will vary from the tested conditions based on local factors such as water pressure, water temperature and water chemistry.

Sincerely,

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